Water starvation is sometimes efficient in the reduction of weight. Vegetables sometimes maintain weight, hence are called for when a big appetite has to be satisfied and there are no contraindications.

Patients with a tendency to gout, rheumatism, lithæmia, headaches, or neuralgia should let sugar and other sweets practically alone; they should not be allowed tea, coffee, viscera or red meat in excess, because they are uric-acid yielders; or tomatoes, spinach, rhubarb, sorrel, asparagus, and old onions, because they contain oxalate of lime.

Seven hours' sleep should be sufficient, and no sleep should be taken during the day.

Two teaspoonfuls of Carlsbad salts in hot water in the morning is admirable, particularly in plethoric cases, if the stomach be tolerant.

Medical gymnastics or massage are "frequently essential to the successful operation of this diet" which need not be followed strictly "after the weight and appetite are under control."

SOCIETY MEETING.

ELEVENTH ANNUAL MEETING OF AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION.

THIRD DAY—THURSDAY, SEPTEMBER 26, CONTINUED.

Report of Committee on Roentgen Ray—Dr. C. O. Files of Portland.—Discussion.

Dr. Charles O. Files of Portland, Me., presented the report of the Committee on Roentgen Ray, and then asked that in this connection Mr. T. B. Kinraide of Boston be asked to describe the coil that he had devised. Mr. Kinraide described his apparatus as desired.

Mr. T. B. Kinraide of Boston said: The coil I have succeeded in making was the result of the repeated breaking down of the Ruhmkorff coils ranging from six to eighteen or twenty inches. I have succeeded very well in removing from the apparatus the danger of destruction so common to the ordinary Ruhmkorff coil. The high-potential regions of the Ruhmkorff coil are very close to the primary (see Fig. 1), being only removed by the strength of the insulation between the outer sections carrying high potential (D and E), and the iron core of the primary. In my experiments the great difficulty met with was that the Ruhmkorff coil would break down, even through half-inch tubing covering the core. My object was to remove

* Held at Buffalo, N. Y., September, 24, 25, and 26, 1901. Ernest Wende, M. D., of Buffalo, President.

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the high-potential region of the coil as far as possible from the primary. In my coil this has been done, the low-potential

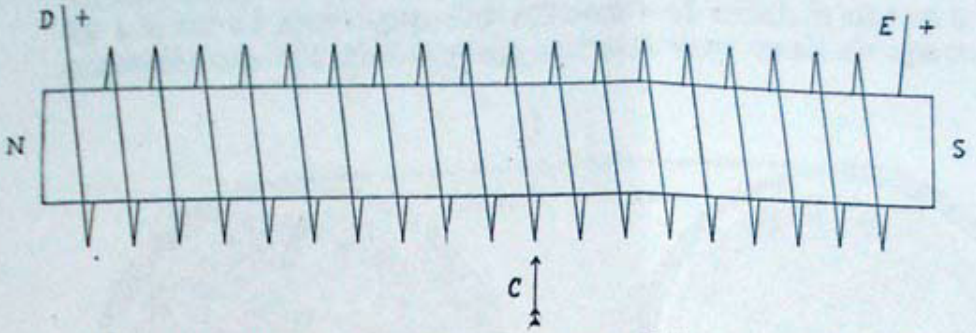


Fig. 1. D, and E, high-potential N. S. iron, are of the primary coil. C, low-potential region.

region of the single coil (G, Fig. 2) being the only part it could come in contact with. By a diagram on the blackboard showing the old cylindrical primary with its lines of force let me illustrate the action of these lines, and call attention to the fact that the moment the current is broken these lines of force

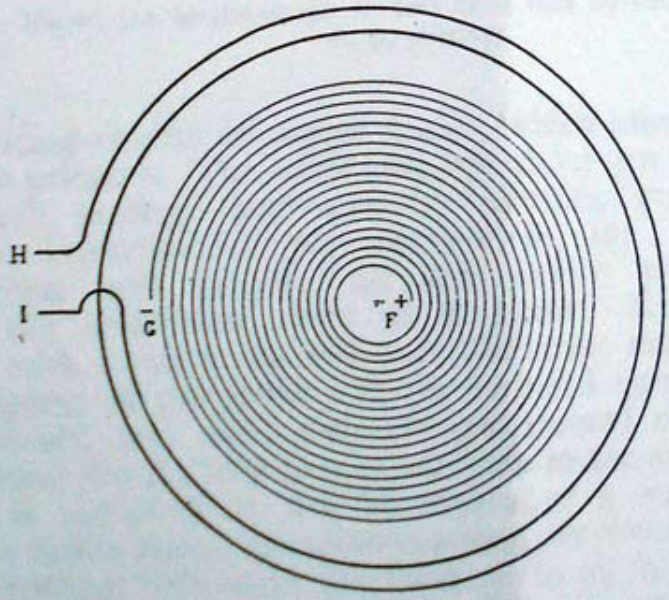


Fig. 2 Primary, low-potential region of high potential (H—I primary).

collapse and fall inward in the direction of the arrows (Fig. 3). In this way the highest potential is produced in the outer terminal of a thin flat spiral secondary, if located in the plane of the arrows, and the low potential at the center. By that method of winding, as the turns grow longer, the resistance per turn increases, and the tendency of the discharge to pass from one turn to the other increases. If a suitable primary were placed on the outside of this secondary, as in Fig. 2, the reverse would be the case, and hence the tendency to break down would be entirely removed in the section of the secondary. In

my coil this is the arrangement adopted, and the lines of force fall away from the center towards the primary in the direction of the arrows in Fig. 4, producing a very high potential

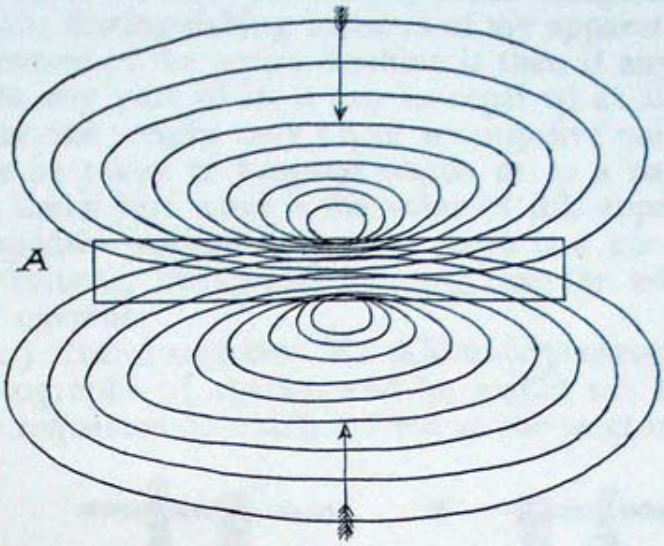


Fig. 3. Lines of force fall in the arrows in the older form of coil.

at the center (F, Fig. 2), and practically very little or no potential at the outer turns (G, Fig. 2), so that the center discharges in the proportion of about six inches towards the earth

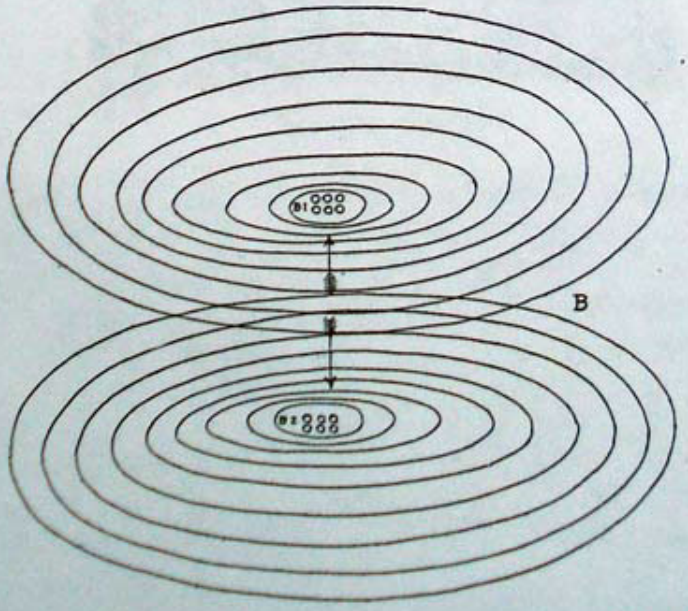


Fig. 4. Shows the arrangement by which the lines of force fall away from the center towards the primary, as indicated by the arrows.

wire whilst the outer terminal discharges about three-fourths of an inch only. To remove all tendency of discharge towards the primary, two of these coils were placed side by side (see Fig. 5). The two primaries are so arranged that a high-poten-

tial positive and negative is obtained from the center terminals of the secondaries. There is practically no tendency whatever in this form of coil to break down. The primary is operated by a form of spark-gap, the efficiency of which is due to a low-potential current discharging across a very small air space, and

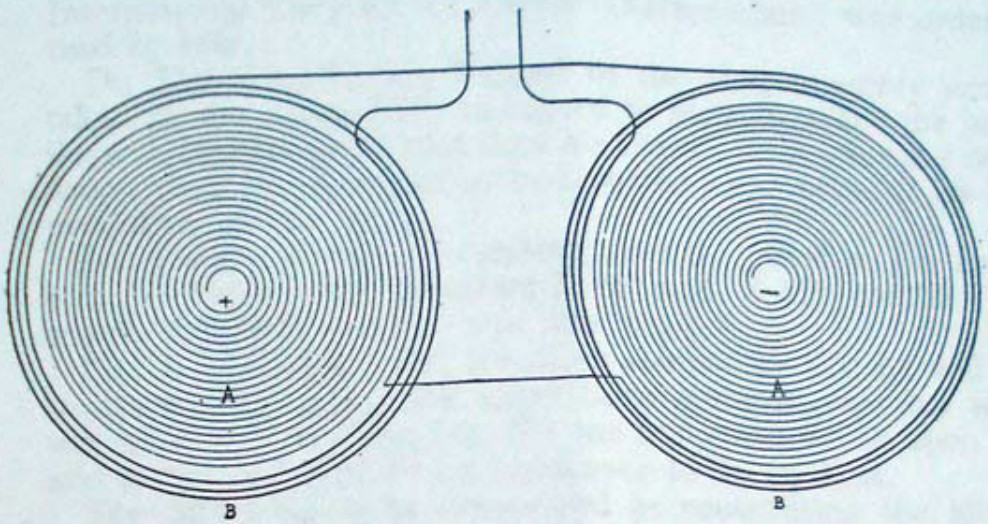
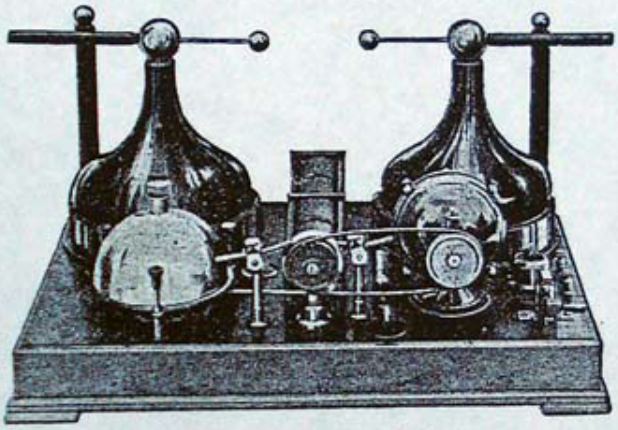


Fig. 5. Shows the arrangement of two coils side by side: A.A, secondary. B, B, primary.

producing erosion of copper plates, which interrupt the circuit in the primary. The condenser has about 900 volts and is discharged through both primary circuits, producing a great many interruptions per second in the circuit of the induction coil proper. In the device used for charging the condenser there is a rotary brake in the circuit, with a coil connected with the street main. At each interruption of the latter coil the induced current charges the condenser, and with each charge, instead of the condenser breaking down, there is a breakdown at the air gap. This air gap is regulated at will by means of a lever. The rotary brake makes about 2400 interruptions per minute, and with each interruption here there are from 20 to 25 interruptions in the primary circuit of the induction coils, thus giving about 48,000 interruptions per minute. It is largely due to this very high frequency that the time of exposure for photographic work is so greatly reduced. If two wires are placed in the upper portions of the coils, they discharge freely into the air. If the discharge terminals are so far apart that the discharge will not pass between them, it passes just as freely through the atmosphere as if the poles were in contact. This furnishes an additional safeguard. There is no heating whatever in the large copper wire forming the primary, whilst the heating of the primary of the Ruhmkorff coil in close contact with the insulating compound of the secondary is too well known to

comment upon. The secondary is imbedded in a solid insulation of rosin and beeswax. My remarks on the Ruhmkorff coil are not intended to be derogatory of that coil, for I think too much of it, but I must necessarily make comparisons in order to show the distinguishing features of my apparatus. One excellent feature of the entire machine is that, if anything should happen to any part of it, it can be repaired at slight expense. The apparatus weighs only about seventy-five pounds, and can therefore be taken to hospital wards or to a patient's house. I do not know just what is the value of this apparatus in electro-therapeutic work, but I think there is a good field for it. The instrument, by special winding, can be adapted to any form of current.

Dr. R. J. Nunn said that Mr. Kinraide possessed remarkably fine photographs of sparks, and he would ask that Mr. Kinraide be requested to exhibit them at the next meeting of the



The Kinraide Coil.

Association. Dr. W. H. White heartily indorsed this suggestion as, he said, the work was exceptionally fine.

The president then formally invited Mr. Kinraide to have these photographs at the next meeting of the Association.

Mr. Kinraide: When the apparatus is properly arranged there is produced from the center terminal a peculiar light violet discharge, coming out in thin streamers of such high potential that one can put the hands or the face in the path of the discharge and feel no shock. Along with this discharge is a tremendous generation of ozone, or correctly speaking ozone and nitrous acid.

Dr. W. J. Morton asked for further information as to the nature of the discharge from the secondary; whether it is snappy and sharp, or bluish.

Mr. Kinraide: The discharge can be varied very considerably by simply moving the spark-gap plates to a greater or less distance from each other. When close together the frequency of the discharge from the condenser is the greatest, and the result is a very hot and very severe current. When these

plates are farther apart the condenser discharges in such a way as to produce great frequency of vibration and almost painless discharge in the secondary. The low potential obtained by having the plates rather close together gives the best results in X-ray work.

Mr. R. G. Brown's article on "Organization of the Second International Congress of Electro-Therapeutists" was ordered read by title.

Dr. Newman, having learned of the complimentary action taken by the Association in regard to himself, asked the privilege of expressing at that time his sincere thanks for the resolution that the Association had passed expressive of its appreciation of his work.

Dr. Ernest Wende, in handing over the gavel to Dr. Frederic H. Morse, the president-elect, said: "My troubles are ended, and your troubles will now begin."

Dr. F. H. Morse: Dr. Newman assures me that he will try to live another year, and under those circumstances my work will be easy. I thank you for the honor conferred upon me, and assure you that I shall endeavor to do my best.

The following were announced as constituting the special committee on the nature of currents from static machines, Messrs. A. E. Kennelly and W. G. Jenks and Professor Samuel Sheldon of Brooklyn.

On motion of Dr. Reyburn, Dr. W. J. Morton was added to this committee.

On motion, the Association finally adjourned at 12.00 M.

NOTES AND COMMENTS.

SECOND INTERNATIONAL CONGRESS FOR ELECTRICITY IN MEDICINE AND RADIOGRAPHY, BERNE, SEPTEMBER 1-6, 1902.

The first international Congress for electricity in medicine and radiography, which was held in Paris last year, was a complete success.

More than 150 scientists from all countries were assembled, and there ensued a lively exchange of ideas on the numerous subjects of interest in medical electricity.

At that time it was voted to hold an International Congress periodically every three years, but, to avoid clashing with other Congresses, it was resolved the Second Congress be held in 1902, and at Berne.

The following International Committee were then elected, and charged with the arranging of future Congresses: M. Tripier, Paris, president; E. Doumer, Lille, secretary; A. Moutier, Paris, assistant secretary; Boisseau du Rocher, treasurer;